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			2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/641,917

Applicant(s)

WATANABE, HIDEYUKI

Examiner

CHAN S PARK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 22-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 22-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/6/04 & 10/1/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. An initialed and dated copy of Applicant's IDS form 1449 is attached to the instant Office action.

Response to Amendment

2. Applicant's amendment was received on 8/6/04, and has been entered and made of record. Currently, **claims 1-14 and 22-38** are pending.

Response to Arguments

3. Upon review of the reference of Hikawa (U.S. Patent No. 6,678,065), which was cited in the Office Action dated 5/6/04 under 35 U.S.C. 102 (e), as being anticipating claims 1-27, the examiner notes that the reference can still be interpreted as anticipating the claims, as currently amended.

Particularly, as amended, claims 1, 7, 8 and 22 now require "... carrying out, in parallel, a process of one of an image reading function, an image recording function, an image copying function and an image communicating function, in response to a command that is accepted while carrying out a process of another of the image reading function, the image recording function, the image copying function and the image communication function ... automatically storing a file of the image data processed by said carrying out (a) independently of processes of the image reading function, the

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image recording function, the image copying function and the image communicating function.” Hikawa teaches an image processing method comprising:

- (a) carrying out, in parallel, a process of one of an image reading function (ITT control section 6), an image recording function (IOT control section 11), an image copying function (fig. 2 & col. 4, line 42 – col. 5, line 16) and an image communicating function (fax line control section in col. 3, line 62 – col. 4, line 2), in response to a command (job request) that is accepted while carrying out a process of another of the image reading function, the image recording function, the image copying function and the image communication function (col. 6, lines 34-36); and
- (b) automatically storing a file (facsimile data received through NCU) of the image data processed by said carrying out (a) independently of processes of the image reading function, the image recording function, the image copying function and the image communicating function (col. 3, lines 35-53, 56-59 and 65-67).

Throughout the invention, Hikawa repeatedly teaches that a plurality of jobs can be performed concurrently. That is, a printing job of image data received over the network can be performed while a scanning job is currently being performed.

4. Applicant's arguments filed 8/6/04 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., carrying out in parallel without requiring a user to be aware of such an electronic filing) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, the applicant acknowledges that Hikawa teaches the method of determining the required minimum amount of resources needed for a job and when the required minimum amount of resources is secured (col. 3, lines 21-31 of Hikawa), jobs are executed in parallel, and image data is stored independently of the jobs executed in parallel. Examiner notes that the difference between the method taught by Hikawa and the current claim wording is not apparent.

5. Therefore, the rejection of claims, as cited in the Office action dated 5/6/04, under 35 U.S.C. 102(e), as being anticipated by Hikawa, is maintained and repeated in this Office action.

6. Moreover, applicant's arguments with respect to **claims 1-14 and 22-38** have been considered but are moot in view of the new grounds of rejection (U.S. Patent No. 6,084,685).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 8, 22 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Particularly, limitation (b) of claim 1 recites, "automatically storing a file of the image data processed by said carrying out (a) ...". Now, referring back to limitation (a), it recites two "carrying out" processes that are processed in parallel. It is unclear as to which of the two "carrying out" processes that the limitation (b) is referring to.

For the examining purposes, the examiner reads the "carrying out" claimed in (b) as the carrying out process processed in response to a command.

With respect to claims 2, 7, 8, 22 and 25, arguments analogous to those presented for claim 1 above, are applicable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14 and 22-38 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hikawa U.S. Patent No. 6,678,065.

8. With respect to claim 1, Hikawa teaches an image processing method comprising:

- (a) carrying out, in parallel, a process of one of an image reading function (ITT control section 6), an image recording function (IOT control section 11), an image copying function (fig. 2 & col. 4, line 42 – col. 5, line 16) and an image communicating function (fax line control section in col. 3, line 62 – col. 4, line 2), in response to a command (job request) that is accepted while carrying out a process of another of the image reading function, the image recording function, the image copying function and the image communication function (col. 6, lines 34-36); and
- (b) automatically storing a file (facsimile data received through NCU) of the image data processed by said carrying out (a) independently of processes of the image reading function, the image recording function, the image copying function and the image communicating function (col. 3, lines 35-53, 56-59 and 65-67).

Throughout the invention, Hikawa repeatedly teaches that a plurality of jobs can be performed concurrently. That is a printing job of image data received over the network can be performed while a scanning job is currently being performed.

9. With respect to claim 2, Hikawa teaches the image processing method as claimed in claim 1, wherein said carrying out (a) stores the file of the image data in a

storage unit which is provided internally or externally to an image processing apparatus which has each of the functions (col. 3, lines 35-45).

10. With respect to claim 3, Hikawa teaches the image processing method as claimed in claim 2, wherein said carrying out (a) transfers the image data processed by each of the functions on one or a plurality of buses within the image processing apparatus (fig. 1).

11. With respect to claim 4, Hikawa teaches the image processing method as claimed in claim 2, wherein said carrying out (a) carries out the processes of the two or more functions in response to an internal command and/or an external command of the image processing apparatus (col. 5, lines 38-46 & col. 2, lines 15-24).

12. With respect to claim 5, Hikawa teaches the image processing method as claimed in claim 4, wherein the external command is issued from one or a plurality of external apparatus coupled to the image processing apparatus via a network (col. 4, lines 3-14).

13. With respect to claim 6, Hikawa teaches the image processing method as claimed in claim 1, wherein said automatically storing (b) stores the file of the image data by adding specific information which enables identification of the file. Note that assigning specific information or address to the image file stored in the memory is an inherent step since the image forming apparatus must identify each file to perform the image processing based on the priority assigned and commands.

14. With respect to claim 14, Hikawa discloses an image processing apparatus (image forming apparatus 100) comprising:

an image data bus line (system bus 14) configured to transfer image data;

an image reading part (ITT control system 6) configured to read a document image and to output read image data to said image data bus line (col. 3, lines 54-61 & col. 4, lines 42-62);

an image communicating part (network control section 9 or fax line control section 8) configured to receive image data from a communication line (LAN in col. 4, lines 3-6) to output received image data to said image data bus line, and to receive transmitting image data from said image data bus line to transmit the transmitting image data to the communication line (transmitting fax in col. 3, line 62 – col. 4, line 2);

an image recording part configured to receive recording image data from said image data bus line and to record an image on a recording medium based on the recording image data (col. 5, lines 9-16); and

a control unit (job control section 2) configured to control one of said image reading part, said image communicating part and said image recording part which is unused for the processing of the image data to process the image data in parallel, in response to a command (job request) which is received during processing of the image data to carry out at least one of a reading operation by said image reading part, a recording operation by said image recording part, a transmitting operation by said image communicating part and a receiving operation by said image communicating part (col. 3, lines 1-17; col. 7, lines 23-31 & step 105 in fig. 5).

15. With respect to claim 28, Hikawa discloses the image processing apparatus as claimed in claim 14, further comprising:

a buffer (DRAM or band buffer memory) temporarily storing the read image data, the transmitting image data and the received image data on said image data bus line (col. 3, lines 35-45).

16. With respect to claim 29, Hikawa discloses the image processing apparatus as claimed in claim 28, further comprising:

a DMA transfer bus line which is used to transfer the image data within said buffer by a DMA transfer.

As previously stated in the Office action dated 5/6/04, Hikawa teaches that the image processing system has a DMA controller (col. 6, line 44). Citing the definition of DMA from the copy of submitted dictionaries, it is used for data transfer directly between memory and a hard disk without an involvement of the microprocessor. Thus, it is inherent that there must be a DMA transfer bus line used for transferring the image data to be stored in either DRAM or/and HDD.

17. With respect to claims 30 and 31, as previously stated in the Office action, Hikawa discloses an image transfer part configured to transfer the image data within said buffer to said DMA transfer bus line based on a DMA transfer request which is received at a preset timing and an image storing part configured to store the image data on said DMA transfer bus line (col. 6, lines 36-49). Hikawa discloses the method of transferring the image data at the user defined or predetermined time period (col. 10, lines 33-41). Based on the user's preference, the priority assigned to different jobs are changed and processed in the order defined. Thus, transferring the image data using the DMA transfer bus line is performed at a preset timing.

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18. With respect to claim 32, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein:

said image data bus line includes a first image data bus line and a second image data bus line which are independently usable by operations carried out in parallel (col. 3, lines 35-45 & col. 4, lines 28-39); and

said buffer includes a first buffer which temporarily stores image data on the first image data bus line (DRAM), and a second buffer which temporarily stores image data on the second image data bus line (HDD).

Although, two distinct bus lines are not explicitly shown, it is inherent that two bus lines are present (one connected to DRAM and another connected to HDD) in the system for transferring and exchanging image data among resources.

19. With respect to claim 33, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein the DMA transfer request is supplied to said image transfer means when a storage capacity of said buffer occupied by the image data reaches a predetermined preset value (col. 5, lines 17-27 & col. 6, lines 28-52)).

20. With respect to claim 34, as previously stated in the Office action, Hikawa discloses the image processing apparatus, further comprising:

a DMA transfer bus line which is used to transfer the image data within said buffer by a DMA transfer;

image transfer means for transferring the image data within said buffer to said DMA transfer bus line based on a DMA transfer request which is received at a preset timing; and

said image transfer means carries out a DMA transfer of the image data within the first buffer or the second buffer depending on a preset priority order when DMA transfer requests for the image data within the first and second buffers are received simultaneously (col. 2, lines 10-14; col. 5, lines 37-46 & col. 10, lines 33-41).

Also, arguments analogous to those presented for claims 29 and 30, are applicable.

21. With respect to claim 35, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein the priority order is alternately switched every time the DMA transfer requests for the image data within the first and second buffers are received simultaneously (default priorities in col. 10, lines 19-32).

22. With respect to claim 36, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 14, wherein said image storing part includes first and second image storing parts (DRAM and HDD) configured to store the image data on said DMA transfer bus line, and the image data within said first image storing part is transferred to and stored in said second image storing part (col. 3, lines 35-45 & col. 5, lines 38-46).

23. With respect to claim 37, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 19, wherein said first

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image storing part is made up of a memory (DRAM or page memory in col. 3, lines 35-45).

24. With respect to claim 38, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 19, wherein said second image storing part is made up of a hard disk drive (HDD in col. 3, lines 46-53).

25. With respect to claim 22, Hikawa discloses an image processing system comprising:

an image processing apparatus including:

an image reading part (ITT control system 6) configured to read a document and to output image data (col. 3, lines 54-61 & col. 4, lines 42-62);

an image communicating part (network control section 9 or fax line control section 8) configured to communicate image data via a communication line (LAN in col. 4, lines 3-6);

an image recording part (IOT control section 11) configured to record an image on a recording medium based on image data (col. 5, lines 9-16); and

a control unit (job control section 2) configured to control a process of one of said image reading part, said image communicating part and said image recording part in parallel in response to a command (col. 10, lines 19-26) that is accepted while controlling a process of another of said image reading part, said image communicating part and said image recording part (col. 6, lines 34-36);

an electronic filing apparatus (host computer) coupled to said image processing apparatus; and

a storage unit (specific memory location in col. 4, line 10) coupled to said electronic filing apparatus,

said control unit automatically storing a file of the image data processed in parallel in said storage unit, independently of processes of said image reading part, said image communicating part and image recording part (col. 4, lines 28-32 & col. 5, lines 37-46).

26. With respect to claim 23, Hikawa discloses the image processing system as claimed in claim 22, wherein said image processing apparatus and said electronic filing apparatus are coupled via a network (col. 4, lines 3-14).

27. With respect to claim 24, Hikawa discloses the image processing system as claimed in claim 23, wherein said image processing apparatus further includes network connecting part (network control section 9) configured to connect said image processing apparatus to said network (col. 4, lines 3-14).

28. With respect to claim 25, arguments analogous to those presented for claim 22, are applicable.

29. With respect to claim 26, arguments analogous to those presented for claim 23, are applicable.

30. With respect to claim 27, arguments analogous to those presented for claim 24, are applicable.

31. With respect to claim 7, arguments analogous to those presented for claims 1 and 14, are applicable.

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32. With respect to claim 8, arguments analogous to those presented for claims 1 and 14, are applicable.

33. With respect to claim 9, arguments analogous to those presented for claim 2, are applicable.

34. With respect to claim 10, arguments analogous to those presented for claim 3, are applicable.

35. With respect to claim 11, arguments analogous to those presented for claim 4, are applicable.

36. With respect to claim 12, arguments analogous to those presented for claim 5, are applicable.

37. With respect to claim 13, arguments analogous to those presented for claim 6, are applicable.

Claims 1-14 and 22-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori U.S. Patent No. 6,084,685.

38. With respect to claim 14, Mori discloses an image processing apparatus (multifunction peripheral device 1) comprising:

an image data bus line configured to transfer image data (col. 4, lines 22-26);

an image reading part (scanner unit 16) configured to read a document image and to output read image data to said image data bus line (col. 4, line 48 – col. 5, line 9);

an image communicating part (either NCU 5 or parallel I/F 3) configured to receive image data from a communication line to output received image data to said image data bus line, and to receive transmitting image data from said image data bus line to transmit the transmitting image data to the communication line (fig. 3);

an image recording part (printer 18) configured to receive recording image data from said image data bus line and to record an image on a recording medium based on the recording image data (col. 5, lines 27-30 & col. 5, line 60 – col. 6, line 11); and

a control unit (CPU 10) configured to control one of said image reading part, said image communicating part and said image recording part which is unused for the processing of the image data to process the image data in parallel, in response to a command (control signals or fax signals) which is received during processing of the image data to carry out at least one of a reading operation by said image reading part, a recording operation by said image recording part, a transmitting operation by said image communicating part and a receiving operation by said image communicating part (col. 4, lines 22-26; col. 7, lines 20-22; col. 10. lines 20-25 and lines 46-57; and col. 15, lines 4-13).

39. With respect to claim 28, Mori discloses the image processing apparatus as claimed in claim 14, further comprising:

a buffer (buffer memory 12) temporarily storing the read image data (col. 5, lines 17-30), the transmitting image data and the received image data on said image data bus line.

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40. With respect to claim 22, Mori discloses an image processing system (fig. 1) comprising:

an image processing apparatus (multifunction peripheral device 1) including:

an image reading part (scanner unit 16) configured to read a document and to output image data (col. 4, line 48 – col. 5, line 9);

an image communicating part (either NCU 5 or parallel I/F 3) configured to communicate image data via a communication line (fig. 3);

an image recording part (printer 18) configured to record an image on a recording medium based on image data (col. 5, lines 27-30 & col. 5, line 60 – col. 6, line 11); and

a control unit (CPU 10) configured to control a process of one of said image reading part, said image communicating part and said image recording part in parallel in response to a command (control signals or fax signals) that is accepted while controlling a process of another of said image reading part, said image communicating part and said image recording part (col. 4, lines 22-26; col. 7, lines 20-22; col. 10, lines 20-25 and lines 46-57; and col. 15, lines 4-13);

an electronic filing apparatus (either PC 50 or another facsimile in col. 5, lines 19-20) coupled to said image processing apparatus; and

a storage unit (buffer memory 12) coupled to said electronic filing apparatus, said control unit automatically storing a file (facsimile data received through NCU) of the image data processed in parallel in said storage unit (col. 5, lines 17-30),

independently of processes of said image reading part, said image communicating part and image recording part (col. 15, lines 8-13).

41. With respect to claim 23, Mori discloses the image processing system as claimed in claim 22, wherein said image processing apparatus and said electronic filing apparatus are coupled via a network (NCU and network between the PC and the multifunction peripheral device). Additionally, since an image data and commands are transmitted/received between the PC and the multifunction peripheral device, it can be concluded that this forms a computer data network.

42. With respect to claim 24, Mori discloses the image processing system as claimed in claim 22, wherein said image processing apparatus further includes a network connecting part (either NCU 5 or parallel I/F 3) configured to connect said image processing apparatus to said network (NCU and network between the PC and the multifunction peripheral device). Additionally, since an image data and commands are transmitted/received between the PC and the multifunction peripheral device, it can be concluded that this forms a computer data network.

43. With respect to claim 25, arguments analogous to those presented for claim 22, are applicable.

44. With respect to claim 26, arguments analogous to those presented for claim 23, are applicable.

45. With respect to claim 27, arguments analogous to those presented for claim 24, are applicable.

46. With respect to claim 1, Mori teaches an image processing method comprising:

- (a) carrying out, in parallel, a process of one of an image reading function (scanner unit 16), an image recording function (printer 18), an image copying function (col. 5, lines 38-53) and an image communicating function (either NCU 5 or parallel I/F 3), in response to a command (control signals or fax signals) that is accepted while carrying out a process of another of the image reading function, the image recording function, the image copying function and the image communication function (col. 4, lines 22-26; col. 7, lines 20-22; col. 10. lines 20-25 and lines 46-57; and col. 15, lines 4-13); and
- (b) automatically storing a file (facsimile data received through NCU) of the image data processed by said carrying out (a) independently of processes of the image reading function, the image recording function, the image copying function and the image communicating function (col. 5, lines 17-30 & col. 15, lines 8-13).

47. With respect to claim 2, Mori teaches the image processing method as claimed in claim 1, wherein said carrying out (a) stores the file of the image data in a storage unit (buffer memory 12) which is provided internally or externally to an image processing apparatus which has each of the functions (col. 5, lines 17-30).

48. With respect to claim 3, Mori teaches the image processing method as claimed in claim 2, wherein said carrying out (a) transfers the image data processed by each of the functions on one or a plurality of buses within the image processing apparatus (col. 4, lines 22-26).

49. With respect to claim 4, Mori teaches the image processing method as claimed in claim 2, wherein said carrying out (a) carries out the processes of the two or more

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functions in response to an internal command and/or an external command of the image processing apparatus (col. 8, lines 49-55; col. 10, lines 46-57; and col. 15, lines 3-13).

50. With respect to claim 5, Mori teaches the image processing method as claimed in claim 4, wherein the external command is issued from one or a plurality of external apparatus coupled to the image processing apparatus via a network (NCU and network between the PC and the multifunction peripheral device). Additionally, since an image data and commands are transmitted/received between the PC and the multifunction peripheral device, it can be concluded that this forms a computer data network.

51. With respect to claim 6, Mori teaches the image processing method as claimed in claim 1, wherein said automatically storing (b) stores the file of the image data by adding specific information which enables identification of the file (fig. 6).

52. With respect to claim 7, arguments analogous to those presented for claims 1 and 14, are applicable.

53. With respect to claim 8, arguments analogous to those presented for claims 1 and 14, are applicable.

54. With respect to claim 9, arguments analogous to those presented for claim 2, are applicable.

55. With respect to claim 10, arguments analogous to those presented for claim 3, are applicable.

56. With respect to claim 11, arguments analogous to those presented for claim 4, are applicable.

57. With respect to claim 12, arguments analogous to those presented for claim 5, are applicable.

58. With respect to claim 13, arguments analogous to those presented for claim 6, are applicable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori as applied to claim 28 above, and further in view of Hikawa.

59. With respect to claim 29, Mori discloses the image processing apparatus as claimed in claim 28, but it does not disclose expressly a DMA transfer bus line configured to transfer the image data with said buffer by a DMA transfer.

Hikawa, the same field of endeavor of the parallel processing art, discloses a buffer temporarily storing (DRAM or band buffer memory) the read image data, the transmitting image data and the received image data on said image data bus line (col. 3, lines 35-45) and a DMA transfer bus line which is used to transfer the image data within said buffer by a DMA transfer.

As previously stated in the Office action dated 5/6/04, Hikawa teaches that the image processing system has a DMA controller (col. 6, line 44). Citing the definition of

DMA from the copy of submitted dictionaries, it is used for data transfer directly between memory and a hard disk without an involvement of the microprocessor. Thus, it is inherent that there must be a DMA transfer bus line used for transferring the image data to be stored in either DRAM or/and HDD.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the DMA transfer bus line of Hikawa into the parallel processing apparatus of Mori.

The suggestion/motivation for doing so would have been to provide an efficient data transfer bus between the memory and a hard disk.

Therefore, it would have been obvious to combine Mori with Hikawa to obtain the invention as specified in claim 29.

60. With respect to claims 30 and 31, as previously stated in the Office action, Hikawa discloses an image transfer part configured to transfer the image data within said buffer to said DMA transfer bus line based on a DMA transfer request which is received at a preset timing and an image storing part configured to store the image data on said DMA transfer bus line (col. 6, lines 36-49). Hikawa discloses the method of transferring the image data at the user defined or predetermined time period (col. 10, lines 33-41). Based on the user's preference, the priority assigned to different jobs are changed and processed in the order defined. Thus, transferring the image data using the DMA transfer bus line is performed at a preset timing.

61. With respect to claim 32, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein:

said image data bus line includes a first image data bus line and a second image data bus line which are independently usable by operations carried out in parallel (col. 3, lines 35-45 & col. 4, lines 28-39); and

said buffer includes a first buffer which temporarily stores image data on the first image data bus line (DRAM), and a second buffer which temporarily stores image data on the second image data bus line (HDD).

Although, two distinct bus lines are not explicitly shown, it is inherent that two bus lines are present (one connected to DRAM and another connected to HDD) in the system for transferring and exchanging image data among resources.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the DMA transfer bus line of Hikawa into the parallel processing apparatus of Mori.

The suggestion/motivation for doing so would have been to provide an efficient data transfer bus between the memory and a hard disk.

Therefore, it would have been obvious to combine Mori with Hikawa to obtain the invention as specified in claim 32.

62. With respect to claim 33, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein the DMA transfer request is supplied to said image transfer means when a storage capacity of said buffer occupied by the image data reaches a predetermined preset value (col. 5, lines 17-27 & col. 6, lines 28-52)).

63. With respect to claim 34, as previously stated in the Office action, Hikawa discloses the image processing apparatus, further comprising:

a DMA transfer bus line which is used to transfer the image data within said buffer by a DMA transfer;

image transfer means for transferring the image data within said buffer to said DMA transfer bus line based on a DMA transfer request which is received at a preset timing; and

said image transfer means carries out a DMA transfer of the image data within the first buffer or the second buffer depending on a preset priority order when DMA transfer requests for the image data within the first and second buffers are received simultaneously (col. 2, lines 10-14; col. 5, lines 37-46 & col. 10, lines 33-41).

Also, arguments analogous to those presented for claims 29 and 30, are applicable.

64. With respect to claim 35, as previously stated in the Office action, Hikawa discloses the image processing apparatus, wherein the priority order is alternately switched every time the DMA transfer requests for the image data within the first and second buffers are received simultaneously (default priorities in col. 10, lines 19-32).

65. With respect to claim 36, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 14, wherein said image storing part includes first and second image storing parts (DRAM and HDD) configured to store the image data on said DMA transfer bus line, and the image data within said

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first image storing part is transferred to and stored in said second image storing part (col. 3, lines 35-45 & col. 5, lines 38-46).

66. With respect to claim 37, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 19, wherein said first image storing part is made up of a memory (DRAM or page memory in col. 3, lines 35-45).

67. With respect to claim 38, as previously stated in the Office action, Hikawa discloses the image processing apparatus as claimed in claim 19, wherein said second image storing part is made up of a hard disk drive (HDD in col. 3, lines 46-53).


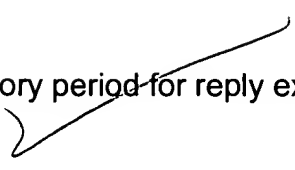
Conclusion

68. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

1-22-08
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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 the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. 

69. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S PARK whose telephone number is (703) 305-2448. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chan S. Park
Examiner
Art Unit 2622

csp
January 19, 2005